Pacific Gas and Electric Company

Nancy E. McFadden
Senior Vice President
Public Affairs

77 Beale Street
32nd Floor
San Francisco, CA 94105

415.973.7015
Fax: 415.973.6942

June 14, 2007

Mr. Winston Hickox
Chair, California Market Advisory Committee
California Environmental Protection Agency
1001 "I" Street
Sacramento, CA 95814

Re: PG&E Comments on the Draft Report *Recommendations for Designing Greenhouse Gas Cap-and-Trade System for California* dated June 1, 2007

Dear Mr. Hickox:

The following comments are offered in response to the issuance of the draft report *Recommendations for Designing a Greenhouse Gas Cap-and-Trade System for California* (the draft MAC report) on behalf of Pacific Gas and Electric Company (PG&E). PG&E is committed to the successful implementation of Assembly Bill 32 (AB 32), and we appreciate the efforts of the Committee to develop an effective greenhouse gas policy.

Our overall impression of the draft MAC report is that it provides a comprehensive discussion of the many issues involved in designing a cap-and-trade program, and a balanced presentation of the many considerations that the California Air Resources Board (CARB) will need to weigh in designing a market-based regulatory program. Drawing on the lessons learned from existing cap-and-trade programs further strengthens the report, and should facilitate the development of a California trading program that can be linked with other state, regional, and federal programs. Again, PG&E very much appreciates the efforts of the Committee in preparing this important document, and we look forward to an ongoing dialogue as you work to complete the report.

PG&E supports adoption of a cap-and-trade regulatory program, recognizing that cap-and-trade will be one of several key policy measures to reduce greenhouse gas emissions in California. We believe that a market-based program will drive real, timely and cost-effective emission reductions and do so more expeditiously than command and control regulation. We agree that a cap and trade program must be designed to encourage early reduction efforts, and that environmental justice concerns will need to be monitored closely. PG&E also continues to support the ongoing implementation of the California Public Utilities Commission (CPUC) energy efficiency programs, renewable energy programs, and other measures which reduce the State's greenhouse gas emissions and diversify its energy supply mix as well as provide energy cost savings to our customers. These programs will play an important part in achieving the goals established by AB 32 and other State energy and environmental policy objectives.

The comments that follow focus on the recommendations in the draft MAC report regarding (1) the options for regulating emissions from the electricity sector, (2) allowance allocation, (3) apportionment of the sector emissions budgets, (4), greenhouse gas emissions offsets, (5) customer cost-containment mechanisms, and (6) the regulation of natural gas use. We have also enclosed our prior comments to the Committee submitted on April 20, 2007.

Regulating Emissions from the Electricity Sector: First Seller Approach versus Load-Based Approach

PG&E agrees that the "first-seller approach" provides the best option for addressing emissions leakage and the economic dispatch of electricity, while maximizing the simplicity and precision of emissions regulation and accounting.

The draft MAC report identifies two options for regulating electricity sector CO_2 emissions: (1) a load-based approach, and (2) a first-seller approach. PG&E believes that the accurate monitoring and reporting of emissions is fundamental to the functioning of emissions caps and an emissions trading market, and therefore favors the first-seller approach, which significantly improves the accuracy of emissions monitoring and reporting, while also addressing issues related to potential "leakage" of emissions.

As a load-serving entity, PG&E can only *estimate* the CO_2 emissions associated with serving our customers' demand ("load") because a significant portion of our load is served by general system purchases, which cannot be traced back to a specific generating facility. This makes it very difficult to determine the precise emissions associated with the electricity we deliver. The draft MAC report is correct to point out that the California Independent System Operator market reform initiative will further complicate these tracking issues. In contrast, the first-seller approach allows for more precise monitoring and reporting of emissions. Additionally, the first seller approach is consistent with State energy policies requiring the economically efficient, "least cost" dispatch of electricity to retail customers, because the costs of emissions will be internalized in the costs of the generation that produces the emissions.

Also, it should be possible to expand a cap-and-trade program based on the first seller approach to include additional states within the program. This flexibility will be important as the six states party to the Western Regional Climate Action Initiative consider their options for implementing a region-wide cap-and-trade program, and may facilitate linking to other state, regional, and federal programs.

Allocation to Load Serving Entities

PG&E recommends distributing electricity sector allowances to load serving entities for the benefit of their customers, who will ultimately bear a significant share of the costs associated with a cap-and-trade program.

PG&E supports the general principles outlined in the draft MAC report for the distribution of allowances (pg. 52). In particular, PG&E supports the distribution of electric sector CO_2 allowances to load serving entities to help mitigate the costs of the program on California's electricity consumers, while promoting investment in energy efficiency programs and greenhouse gas reduction technologies, and using an allocation methodology that recognizes early actions.

In the case of investor-owned utilities, the California Public Utility Commission (CPUC) would direct the sale of CO_2 allowances, and supervise distribution of the revenues for the benefit of electricity consumers and greenhouse gas reduction programs. PG&E believes that the CPUC, with its knowledge of electricity customers, experience with energy efficiency programs and rate design, and demonstrated leadership on climate change, is well suited to direct the distribution of those proceeds.

The free distribution of allowances to load serving entities need not mute price signals to consumers, as suggested by the draft MAC report (pg. 44). In fact, alternative approaches are available for distributing allowance proceeds that would reinforce the incentive for energy efficiency and energy conservation efforts, and address low-income equity issues.

Apportionment of the Sector Emissions Budgets

The statewide reduction obligations should be apportioned in a way that ensures no single sector or its customers are assuming a disproportionate share of the reduction obligation. All sectors, whether in the cap-and-trade program or addressed through other programmatic measures, should be responsible for emissions reductions.

The calculations in Table 4-1 of the draft MAC report (pg. 31) provide an illustration of the reductions that may be required to stabilize greenhouse gas emissions at 1990 levels. It also suggests the need for an equitable distribution of the statewide reduction obligation to avoid placing a disproportionate burden on any single sector or its customers. For example, as outlined in the report, if the cap-and-trade program requires a 20 percent reduction in emissions from 83 percent of the State's greenhouse gas emissions sources, then the remaining sectors (17 percent of emissions) would need to reduce their emissions by 73 percent relative to the business-as-usual projection. This argues for an equitable distribution of the statewide reduction obligation and the need to require reductions from all sectors of the economy over the same time period, whether through the cap-and-trade program or through programmatic measures, to avoid placing a disproportionate burden on

any individual sector of the economy at any point in time. That is not to say that each sector must meet all reduction requirements within its sector. Rather, the market should determine the most cost-effective distribution of emissions reduction measures, not the apportionment of the budget.

Greenhouse Gas Emissions Offsets

PG&E supports the Committee recommendation that greenhouse gas emissions offsets should be allowed as part of an overall cap-and-trade program and should not have geographic or quantity limitations.

Offset projects have the potential for generating emissions reductions benefits at low cost. PG&E recognizes that there are significant and practical challenges in the implementation of an offsets provision. On the other hand, offset projects which provide real and additional emissions reductions broaden the reach of the state regulatory program and help promote the achievement of overall emissions reductions at lower cost. PG&E supports the MAC's recommendations.

Cost-Containment Mechanisms

As allowance prices increase so too does the cost of electricity, creating the potential for significant economic consequences for our customers. In addition, trading markets need to be designed to provide stable and sustained price signals for investment and demand response. Therefore, PG&E supports the adoption of cost-containment mechanisms to ensure stable and transparent allowance prices and to mitigate unforeseen costs to our customers.

The draft MAC report recommends several program design elements for controlling the economic impacts of the program, including: (1) a gradual approach to achieving the 2020 target (pg. 21), (2) investment in end-use efficiency improvements (pg. 51), (3) incentives for early action (pg. 56), (4) a robust greenhouse gas offset program that can be linked with other programs (pg. 61), (5) allowance banking (pg. 62), (6) multi-year compliance periods (pg. 62), and (7) direct allocation of allowances, potentially to load serving entities on behalf of their customers. PG&E supports these recommendations and concepts.

As indicated in our prior comments to the Committee, PG&E supports the inclusion of cost-containment mechanisms to limit the potential for high and/or volatile allowance prices that could result in economic hardship for our customers. A well-defined cost-containment mechanism could help to mitigate unintended market impacts.
As indicated in our original submission, cost-containment mechanisms should be established in a manner that both maintains the environmental integrity of the program and does not mute the price signal for future, needed investments.

The Regulation of Natural Gas Use

PG&E recommends the adoption of programmatic measures to encourage demand-side efficiency improvements by residential and industrial natural gas users in advance of any cap-and-trade program.

The draft MAC report acknowledges a strong economic and public policy rationale for adopting additional policies to complement an emissions trading system, to include greenhouse gas emissions by end users of natural gas. PG&E recommends the adoption of programmatic measures at the end-user level to encourage demand-side efficiency improvements by residential and industrial natural gas users. Options include improved gas appliance efficiency standards, consumer rebate programs, and other measures to encourage improved efficiency and reduced emissions from natural gas end users, including industrial, residential and commercial users.

Thank you for the opportunity to comment on the draft MAC report, and for the efforts of the Committee in preparing a comprehensive package of recommendations. If you have any questions, please contact me at (415) 973-7015 or John Busterud at (415) 973-6617.

Sincerely,

Nancy E. McFadden

Enclosure

cc: Dr. Robert Sawyer
Chair, California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Mike Scheible
Deputy Executive Officer
1001 "I" Street
Sacramento, CA 95814

Catherine Witherspoon
Executive Officer
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Catherine Witherspoon
Executive Officer
California Air Resources Board
1001 "I" Street
Sacramento, CA 95814

Linda Adams
Secretary, Cal EPA
1001 "I" Street
Sacramento, CA 95814

Dan Skopec
Undersecretary, Cal EPA
1001 "I" Street
Sacramento, CA 95814

Brian Prusnek
Deputy Cabinet Secretary
State Capitol Building
Sacramento, CA 95814

Michael R. Peevey
President, CPUC
505 Van Ness Avenue
San Francisco, CA 94102

Eileen Tutt
Assistant Secretary, Cal EPA
1001 "I" Street
Sacramento, CA 95814

California Market Advisory Committee:

Dale Bryk
Dallas Burtraw
Daniel J. Dudek
Paul Ezekiel
Lawrence H. Goulder
Judi Greenwald
Steven E. Koonin
Franz T. Litz

Joe Nation
Martin Nesbit
Jonathan Pershing
Nancy Sutley
Peter Zapfel

PG&E Corporation.

Nancy E. McFadden
Senior Vice President
Public Affairs

77 Beale Street, B32
San Francisco, CA 94105

415.973.7015
Fax: 415.973.6942
NEM5@pge.com

April 20, 2007

Mr. Winston Hickox
Chair, California Market Advisory Committee
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Re: Initial PG&E Comments on the Design of a Greenhouse Gas Market-Based Program for California

Dear Mr. Hickox:

Pacific Gas and Electric Company (PG&E) appreciated the opportunity to participate in the February 27, 2007 public meeting conducted by the Market Advisory Committee (MAC) regarding the design of a market-based program for achieving greenhouse gas (GHG) emission reductions in California. As a follow-up to that meeting, this letter provides PG&E's initial comments to the MAC on key market-design issues.

As you know, PG&E was one of the first companies in the nation to publicly express concern about global climate change and the need to reduce GHG emissions. This concern led PG&E to strongly support the California Legislature's groundbreaking efforts to address climate change in AB 32 and to encourage Governor Schwarzenegger to sign the bill. PG&E is committed to working with the MAC, the California Environmental Protection Agency (EPA), the California Air Resources Board (CARB), the California Public Utilities Commission (CPUC), other state agencies, and stakeholders to successfully implement AB 32.

PG&E was also one of the first companies in the nation to support federal legislation calling for mandatory GHG emission reductions. PG&E has consistently advocated the use of market-based programs as a key element of a GHG emission reduction program established by any level of government.

In the context of AB 32 implementation, PG&E developed the following set of principles to guide our policy development:

- Achieves AB 32's stated environmental goals and objectives;
- Minimizes costs to our customers;
- Recognizes investments our customers and the state have made, and will continue to make, in clean energy resources and energy efficiency;
- Provides for a broad range of cost-effective compliance options;
- Establishes a liquid and transparent trading system that includes linkage with other domestic and international markets;

- Provides for a reasonable degree of regulatory certainty to facilitate and encourage necessary investments in clean energy technologies;
- Encompasses provisions to manage unanticipated market impacts; and
- Serves as a model for federal legislative and regulatory efforts.

We believe that PG&E's guiding principles are consistent with those established by the MAC and that a market-based approach, which includes a cap-and-trade program, is the most effective way of achieving these objectives. A well-designed cap-and-trade approach can ensure that GHG emission reduction targets will be met while simultaneously generating a price signal resulting in market incentives that stimulate investment and innovation in the technologies, processes, and practices necessary to achieve AB 32's overall environmental goals.

Allowing market forces to direct capital investment to the least-cost control opportunities will minimize the overall cost of compliance. This approach allows companies to make their investment decisions based on the market price of carbon. If a company determines that it can reduce its emissions at a cost ($/ton) lower than the market price of carbon, then it will pursue the investment. On the other hand, if its pollution abatement costs are higher than the market price of carbon, the company would elect to seek additional, verified emission reductions from elsewhere in the market (avoiding the higher costs that it would otherwise have to incur to reduce its own emissions). This approach simulates investment, provides benefits to consumers, and helps manage costs while providing real contributions toward reducing GHG emissions.

In addition to the policy principles listed above, there are several key design elements that must be considered when establishing a cap-and-trade program to achieve greenhouse gas emission reductions. Each of these elements will significantly impact the effectiveness of the program, its overall costs to consumers, and its ability to serve as a model for federal legislative and regulatory action.

Fortunately, taking a cap-and-trade approach to reducing emissions is not new, and there are several existing and proposed examples for the MAC and state agencies, including CARB, CEC, and the CPUC, to review. These programs include the U.S. Acid Rain Program, the NOx Emission Reduction Program in the eastern U.S., the Regional Greenhouse Gas Initiative (RGGI) in the Northeast, and the European Union Emissions Trading System. These provide good examples for understanding key program design elements, alternatives available for addressing design issues, and, in some cases, lessons learned.

From PG&E's review of these and other cap-and-trade programs, the following elements are among those critical to ensuring the design of a well-functioning market under a cap-and-trade program:

- **Sector Contributions to Total Emissions and Availability and Costs of Technologies:** There must be a solid understanding of the emissions of the various sources and sectors and their relative contribution to the state's overall emissions: historically, currently, and going-forward. Taking a consistent approach to understanding historic, current, and projected emissions will account for GHG emission reductions that have already been and will be achieved within each sector, such as those associated with the electric industry's investments in energy efficiency, renewable resources, and similar measures. In addition to understanding the contribution that each sector and source within each sector makes toward the state's overall GHG footprint, it will also be important to have a solid understanding of the availability of low-, and non-carbon emitting technologies within each sector and the associated costs. Taken together, this information will help to inform the level of the emissions cap for each sector, reasonable emissions trajectories, and potential cost implications. Accurate data is also essential to ensure that a sufficient number of allowances are allocated to each sector and within each sector.

- **Apportionment of Reduction Obligations:** Statewide reduction obligations should be apportioned in a way that ensures no single sector or its customers are assuming a disproportionate share of reduction obligations. While emission reductions achieved may ultimately vary among sectors, the genesis of those reductions should be driven by the market seeking the most cost-effective reductions, as opposed to shifting obligations between sectors. If sector emission caps are not equitable, industries with overly stringent caps will face excessive compliance costs, while those with loose caps will be unduly advantaged.

- **A Clear Emission Reduction Trajectory:** Establishing a clear and feasible emission reduction trajectory that allows for regulated entities to understand their emission reduction obligations over the term of the program is critical to allowing entities to effectively manage compliance costs. The ultimate goal of AB 32 is for the state to achieve its 1990 emission levels by 2020. Creating a clear glide path that takes a gradual approach and recognizes the availability and costs of low- and non-GHG emitting technologies to meeting reductions will avoid requiring regulated entities from making jarring and potentially uneconomic decisions, while also providing for a longer term price signal to make appropriate investments.

- **Direct Allowance Allocation:** PG&E strongly supports allocation of allowances to customers, and is very concerned about the potential cost impacts to customers of initially auctioning a substantial portion of allowances. Under this approach, load serving entities (LSEs) would receive a direct allocation of allowances to manage on behalf of their

customers. The CPUC would oversee investor-owned utility management of the allowances.

An auction of all or a significant portion of allowances, no matter how well designed, will increase costs to customers with uncertain commensurate benefit. Some may argue that such an auction can provide a beneficial initial price signal, but this signal will diminish in importance over time as trading occurs. An auction that is not well designed could result in an inefficient allocation of allowances and may provide a misleading initial price signal, in addition to increasing costs to customers. If an auction is deemed to be necessary, then PG&E recommends that it be limited in quantity and that, in the electric sector, revenues generated through the auction be allocated to the LSEs under the supervision of the CPUC for the benefit of the LSE's customers.

In addition, allocations should recognize the investments the utility sector has made and will continue to make on behalf of its customers in clean energy resources and energy efficiency. For example, PG&E has chosen not to include high-emitting resources in its portfolio and should not be penalized in any allocation for this choice.

- **Robust Emission Trading Market**: Climate change is unlike any other air quality challenge we currently face. It does not matter from where GHGs are emitted, reduced, or sequestered, as GHGs mix uniformly in the atmosphere. A robust market can be assured by including as many industry sectors and participants as possible, with linkages to other existing and emerging domestic and international programs (i.e., RGGI, EU ETS, Canada, and, ultimately, a future national program).

- **Flexible Compliance Mechanisms**: Establishing multi-year flexible compliance mechanisms will allow regulated entities to better manage their emission reduction activities, while simultaneously providing a form of cost control. These flexible compliance mechanisms can include program elements like banking of emission allowances, borrowing of emissions allowances, and multi-year compliance periods rather than a traditional annual compliance true-up. This last element is critically important to the power sector, where weather and precipitation variability have a significant impact on year-to-year emissions. As an example, RGGI has selected a three-year compliance true-up period for its program.

- **Broad Carbon Offsets Provisions**: Credible carbon offsets should play a role in assisting entities to meet their reduction goals. The ability to use carbon offsets (e.g., verified GHG emission reductions or carbon sequestration activities from sources not included in the cap-and-trade program) provides increased compliance flexibility and

improves cost effectiveness. Offset projects can also provide other associated benefits, like reduction in criteria pollutants, enhanced biodiversity, and advancement of new technologies. Since climate change is truly a global issue, offsets should be allowed from a range of domestic sinks, domestic sources of emissions that are not subject to the cap, and projects outside the U.S. To ensure environmental integrity of the offsets and that the price of carbon is being adequately reflected, offsets allowed for use in a program must be environmentally additional, verifiable, permanent, and enforceable.

- **Accurate Information and Market Transparency:** Any market will function well only when it is transparent and supported by accurate and credible information on emissions, allowance prices, and supply that is available to all market participants and the general public. Standardized emissions monitoring and reporting requirements ensure that sources in the cap-and-trade program are monitoring and reporting emissions data consistently and accurately. Transparency and confidence in the forward prices and prospective supply are foundational to attracting sufficient investment in emissions reducing activities. Existing markets, such as the Acid Rain program, can be models for how emission monitoring and market transparency could be established in a California cap-and-trade program.

- **Cost Control Measures:** Cost control measures are policies designed to provide capped entities with greater confidence that their costs and those of their customers will be limited. The most powerful cost control measure is a robust cap-and-trade program, since markets do the best job of controlling costs over time. AB 32 provides for program adjustments if unanticipated and sustained market impacts should occur. Based on our state's experience with the energy crisis, we urge the MAC to evaluate and recommend specific evaluation criteria for assessing unanticipated price impacts, to ensure that if a sustained market dysfunction should occur, there is a pre-established protocol in place to trigger the adjustments. Any market adjustment or other cost-control options must ensure the integrity of the emissions cap over a multi-year period and preserve the market's effectiveness in driving reductions, investment, and innovation. Some additional cost control options include, but are not limited to, a cost safety valve and strategic allowance reserves. Criteria for triggering and revoking these additional cost control options should be established in advance of the program in order to prevent excessive compliance costs being borne by customers.

Finally, one of the most basic but often overlooked points in designing a cap-and-trade program was outlined in the MAC Market Design Guiding Principles: "Be simply designed, easily understood, easy to administer and easy to comply with." PG&E concurs vigorously with this statement. We recognize that a cap-and-trade program will not be the entire solution and that

traditional regulatory or command-and-control strategies will be required, and may even be more appropriate for some sectors. However, as the MAC provides recommendations as to how to design a market-based program, particularly for the electric sector, it is important to stress simplicity and predictability in order to facilitate good compliance planning and avoid unnecessary costs.

Thank you for the opportunity to submit these initial comments regarding the MAC's recommendations for the design of a market-based program for implementing AB 32. California has the opportunity to inform the national debate and show that greenhouse gas emission reductions can be reduced in a way that provides for economic opportunity, innovation, and technology advancement. PG&E looks forward to working with the MAC and to providing additional comments on specific market features as the MAC works to develop its recommendations.

PG&E is also committed to working with the MAC and others on assessing alternative structures and approaches to meeting AB32's reduction goal. If you have any questions, please contact me at (415) 973-7015 or John Busterud at (415) 973-6617.

Sincerely,

Nancy E. McFadden

NEM:kp

cc: Dr. Robert Sawyer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mike Schieble
Deputy Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Catherine Witherspoon
Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Linda Adams
Secretary, Cal EPA
1001 I Street
Sacramento, CA 95814

Dan Skopec
Undersecretary, Cal EPA
1001 I Street
Sacramento, CA 95814

Brian Prusnek
Deputy Cabinet Secretary
Governor's Office
State Capitol Building
Sacramento, CA 95814

Michael R. Peevey
President, CPUC
505 Van Ness Avenue
San Francisco, CA 94102

Eileen Tutt
Assistant Secretary, Cal EPA
1001 I Street
Sacramento, CA 95814